



Travelling Wave Tube Amplifier

Type AHPA-5-7000



Description

This is a high power pulsed C-band travelling wave tube amplifier comprising travelling wave tube and matched power supply. The unit is 19" rack-mounted and is capable of withstanding stringent environmental conditions.

The TWTA which incorporates a TWT with helix slow wave structure and a double stage depressed collector for enhanced efficiency produces 7.0kW minimum output power and operates from a 28 volt DC power source. The power supply provides all of the TWT electrode voltages to the high standards of stability and ripple required and uses a proven high voltage switch mode power supply.

Built in features such as monitoring, control and protection circuits ensure safe operation and both digital and RF signals are output for monitoring input and output power levels.

Features

- High efficiency TWT
- Modular PSU
- Monitoring, Control and Protection Circuits
- Input and Output Circulators
- 2nd and 3rd Harmonic Filters
- 0 to 31 dB Input Attenuator to control output power
- Integral Forced Air Cooling
- RS232 Control Interface

Specification

Electrical

Frequency	5.2 to 5.5 GHz
Output Power	7.0 kW (min)
Pulse Width	1 to 30 μ s
Pulse Repetition Frequency	10 kHz max
Duty	3.0% max

Input Power	0 dBm
Gain Flatness	0.6 dB max
Gain Droop	0.2 dB max (across a 30 μ s pulse)
2 nd Harmonic	-55 dBc
3 rd Harmonic	-60 dBc
Spurious	-60 dBc
AM/PM Sideband	-60 dBc
Load VSWR	1.5:1 max for full spec. compliance 2.0:1 no damage
RF Output Pulse Rise Time	100 ns max
RF Output Pulse Fall Time	100 ns max
3rd Order Intermodulation	-11 dBc max at $P_{sat}-3$ dB

Electrical Supply

Primary Supply	28 V \pm 4 V DC
Power Consumption	1600 W max

Cooling

Cooling	Integral Forced Air
Temperature range	-15 °C to +55 °C

Connectors

Prime Power	Harting Han-modular
Control	9-pin D-type Male
RF power monitors	N-type Female
RF Input Connector	SMA Female
RF Output Connector	WR159 Waveguide

Environment

Operating Temperature	-15 °C to +55 °C
Storage Temperature	-40 °C to +85 °C
Altitude	4000m max
Humidity	95% RH
Vibration	3g rms random 10 to 1000Hz

Physical

Approx. Overall Dimensions	19" Rack-mount, 600mm deep by 6U high
Weight	45kg

Albacom Limited reserve the right to alter any product specifications without prior notice.